

Application No. 10/529,305
Supplemental Amendment in Reply to
Office Action mailed on August 10, 2006

Amendments to the Claims

The listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

Claim 1 (previously presented) A method of controlling an asymmetric waveform generated by an asymmetric waveform generator as a combination of two sinusoidal waves having respective frequencies that differ from each other by a factor of two, the method comprising the steps of:

- sampling the generated asymmetric waveform to obtain a set of data points that is indicative of the generated asymmetric waveform;

- arranging the sampled data points in an order according to magnitude;

- comparing the arranged sampled data points to template data relating to a desired asymmetric waveform;

- in dependence upon the comparison, determining a correction to the generated asymmetric waveform, the determined correction for adjusting at least one of a phase angle difference between the two sinusoidal waves and an amplitude of at least one of the two sinusoidal waves; and,

- adjusting LC tuning electronics of the asymmetric waveform generator in dependence upon the determined correction, so as to control the asymmetric waveform being generated thereby.

Claim 2 (original) A method according to claim 1, comprising a step of obtaining the template data, the template data including a set of data points relating to the desired asymmetric waveform.

Claim 3 (previously presented) A method according to claim 1, wherein the step of sampling is performed as an analog-to-digital sampling for collecting data points contained within one cycle of the generated asymmetric waveform.

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Claim 4 (previously presented) A method according to claim 1, wherein the step of sampling is performed as an analog-to-digital sampling, for collecting data points from a plurality of portions of the generated asymmetric waveform during a period of time overlapping with a plurality of different cycles of the generated asymmetric waveform.

Claim 5 (previously presented) A method according to claim 2, wherein the step of comparing comprises a step of determining a difference between each arranged sampled data point and a corresponding data point of the template data.

Claim 6 (previously presented) A method according to claim 1, wherein the generated asymmetric waveform has the general form $V(t) = A \sin(\omega t) + B \sin(2\omega t - \Theta)$, where $V(t)$ is the asymmetric waveform voltage as a function of time, A is the amplitude of the first sine wave at frequency ω , where ω is the frequency in radians/sec, B is the amplitude of the second sine wave at a frequency 2ω , and Θ is a phase angle offset between the first sinusoidal wave and the second sinusoidal wave.

Claim 7 (previously presented) A method according to claim 6, wherein the determined correction is for satisfying the condition $A+B$ is equal to a desired asymmetric waveform peak voltage.

Claim 8 (original) A method according to claim 6, wherein the determined correction is for satisfying the condition $\Theta = \pi/2$.

Claim 9 (original) A method according to claim 6, wherein the determined correction is for satisfying the condition that A/B equals a predetermined value.

Claim 10 (previously presented) A method according to claim 1, including the step of repeating the steps of claim 1 in an iterative fashion.

Claim 11 (cancelled).

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Claim 12 (previously presented) A method according to claim 2, wherein the step of obtaining template data comprises the step of retrieving template data from a memory.

Claim 13 (previously presented) A method according to claim 2, wherein the step of obtaining template data comprises the step of evaluating $V(t) = A \sin(\omega t) + B \sin(2\omega t - \Theta)$ for each one of a plurality of t -values, for determining a first set of data points, and further comprises the step of arranging the first set of data points in an order according to magnitude.

Claim 14 (previously presented) A method according to claim 2, wherein the set of data points that is indicative of the generated asymmetric waveform and the template data relating to the desired asymmetric waveform include a same number of data points.

Claim 15 (currently amended) A storage medium encoded with machine-readable computer program code for controlling an asymmetric waveform generated by an asymmetric waveform generator as a combination of two sinusoidal waves having respective frequencies that differ from each other by a factor of two, the storage medium including instructions for:

- obtaining a set of data points that is indicative of the generated asymmetric waveform;

- arranging the data points in an order according to magnitude;

- obtaining template data including a set of data points relating to a desired asymmetric waveform;

- comparing values of data points within a predetermined range of the arranged data points to values of data points within a corresponding predetermined range of the template data;

- in dependence upon the comparison, determining a correction to the generated asymmetric waveform, the determined correction for adjusting at least one of a phase angle difference between the two sinusoidal waves and an amplitude of at least one of the two

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sinusoidal waves; and,

adjusting LC tuning electronics of the asymmetric waveform generator in dependence upon the determined correction, so as to control at least one of the phase angle difference between the two sinusoidal waves and the amplitude of at least one of the two sinusoidal waves.

Claim 16 (previously presented) A method according to claim 7, wherein the determined correction is for satisfying the condition $\theta = \pi/2$.

Claim 17 (previously presented) A method according to claim 7, wherein the determined correction is for satisfying the condition that A/B equals a predetermined value.

Claim 18 (previously presented) A method according to claim 16, wherein the determined correction is for satisfying the condition that A/B equals a predetermined value.

Claim 19 (previously presented) A method according to claim 6, including the step of repeating the steps of claim 1 in an iterative fashion.

Claim 20 (cancelled).